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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/703,282	10/31/2000	Vadim Gektin	Sun-P5363	2267

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EXAMINER	
DUONG, THO V	
ART UNIT	**PAPER NUMBER**
3743	

DATE MAILED: 07/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/703,282	GEKTIN ET AL.	
	Examiner	Art Unit	
	Tho v Duong	3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-6 and 8-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-6 and 8-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Receipt of applicant's amendment filed 4/19/2004 is acknowledged. Claims 1-2,4-6 and 8-17 are pending.

The indicated allowability of claims 2 and 5 are withdrawn in view of the newly discovered reference(s) to Dodson (US 5,787,971). Rejections based on the newly cited reference(s) follow.

Response to Arguments

Applicant's arguments filed 4/19/2004 have been fully considered but they are not persuasive. Applicant's argument that the prior art fail to disclose the first surface is configured to be in contact with the heat source, has been very carefully considered but is not deemed to be persuasive. Since applicant is claiming that "the first surface being configured to be in contact with said heat source", the limitation "in contact" can be reasonably interpreted as in thermally contact where a coolant © is a medium that thermally connect the two parts. In the rejection as follows, the examiner has indicated that the first surface (50) is configured to be in thermally contact with the heat source (8,28) via the coolant ©. Furthermore, the applicant argues that the reservoir (48) cannot be considered to be a part of the heat transfer device. The examiner also disagrees with this argument because the reservoir (48) contains the coolant © which is a working fluid of the heat transfer device. Therefore, it is reasonably for one of ordinary skill in the art to considered the reservoir (48) and its casing (50) to be part of the heat transfer device. As regarding applicant's argument about the combination of reference to Cheon and Kosson, it

appears that the applicant argues against the references individually. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Kosson was not relied on to show the base having first surface, second surface and wherein the first surface is configured to be in contact with the heat source. As clearly stated in the previous Office Action that, reference to Cheon substantially discloses all of applicant's claimed invention except for a power cord connects the pump to the power source. Reference Kosson was then relied on to show the teaching of having a power cord to connect the pump to the power source for the purpose of providing power to the pump's motor in order to operate the pump.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1,6,8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheon (US 5,731,954) in view of Kosson (US 4,252,185). Cheon discloses (figures 1,4 and 5) a device for transferring of heat away from a heat source (8,28) comprising a base (7,42 and 50) having a first and second surfaces (42,50); a plurality of fins (44) extending from the second surface of the base, the plurality of fins (44) being integrated with the second surface; a chamber

(58,60) disposed between the first surface and the second surface of the base; the first surface (50) is configured to be in thermal contact with a heat source (8,28) via a coolant fluid (C) disposed within the device, a divider (62) disposed between the first surface and the second surface within the chamber; water disposed within the chamber; a pump (P) positioned within the chamber and proximate an edge of the base; an inlet of the pump being proximate the first surface of the base to receive water in the downstream section (60) of the chamber proximate the first surface; and an outlet (56) of the pump that circulates water within the device and over a surface of the divider (62) through conduits (70,74). Cheon is silent about the pump having a power cord connected to a power source. However, Cheon discloses (column 5, lines 58-65) that the pump (P) has an electric pump motor (M). It is well known in the art that an electric pump has a power cord to connect to a power source to energize the pump. One of the prior arts teaches about using power cord connected between the pump and the power source is a reference to Kosson. Kosson discloses (figure 1 and column 2, lines 31-37) a motor and pump unit (20) has a power cord (32) connected to an external source of electrical energy for the purpose of providing power to the pump's motor in order to operate the pump. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Kosson's teaching in Cheon's device for the purpose of providing power to the pump's motor in order to operate the pump.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheon and Kosson as applied to claim 1 above, and further in view of Batchelder (US 6,175,495). Cheon and Kosson substantially disclose all of applicant's claimed invention as discussed above except for the limitations of a fan attaching to the fin and the material of the fins and the base.

Cheon further discloses that the wall of the base and the fins are made of material that is capable of conducting heat. Batchelder discloses (figure 8 and column 6, lines 8-14) a heat transfer device that has a base having a cooling chamber (90) and fins (44) of the same material integrated and extending from the base wherein the material of the fins is aluminum or copper to conduct heat away from the heat source through the base and the fins by conductivity. Batchelder further discloses (figure 8) a fan (110) is mounted on to the fins (44) to further increase the heat transfer rate of the device. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Batchelder's teaching in the combination device of Cheon and Kosson to conduct heat away from the heat source through the base and the fins by conductivity and to further increase the heat transfer rate of the heat transfer device.

Claims 1,2,4-5 and 8-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Batchelder (US 6,019,165) in view of Batchelder (US 6,175,495) and Dodson (US 5,787,971). Batchelder discloses (figures 2,7,8 and Figure A as bellow) a liquid heat sink comprising an aluminum or copper base (20) having a first surface (24) and a second surface (26); the first surface being configured to be in contact with the heat source; a plurality of fins (28) extending from the second surface; the base including a chamber disposed between the first and second surfaces (24,26); the chamber including a divider (206) disposed with the chamber and between the first and second surfaces; a pump, which includes components such as fan (30), magnet (56) and impeller (54), approximate to an upper edge of the base (20); an inlet of the pump (as indicated in the Figure A) being proximate the first surface of the base to receive a cooling fluid such as water disposed within the chamber; an outlet pump proximate to the second surface and

configured to pump the cooling fluid over the second surface; and a fan (30) attached to the fins. Batchelder further discloses (figures 7 and 8) that the divider (206,210) including a plurality of flow dividers (222,226,234) extending radially from the pump to maximize heat transfer from the fluid to the fins.

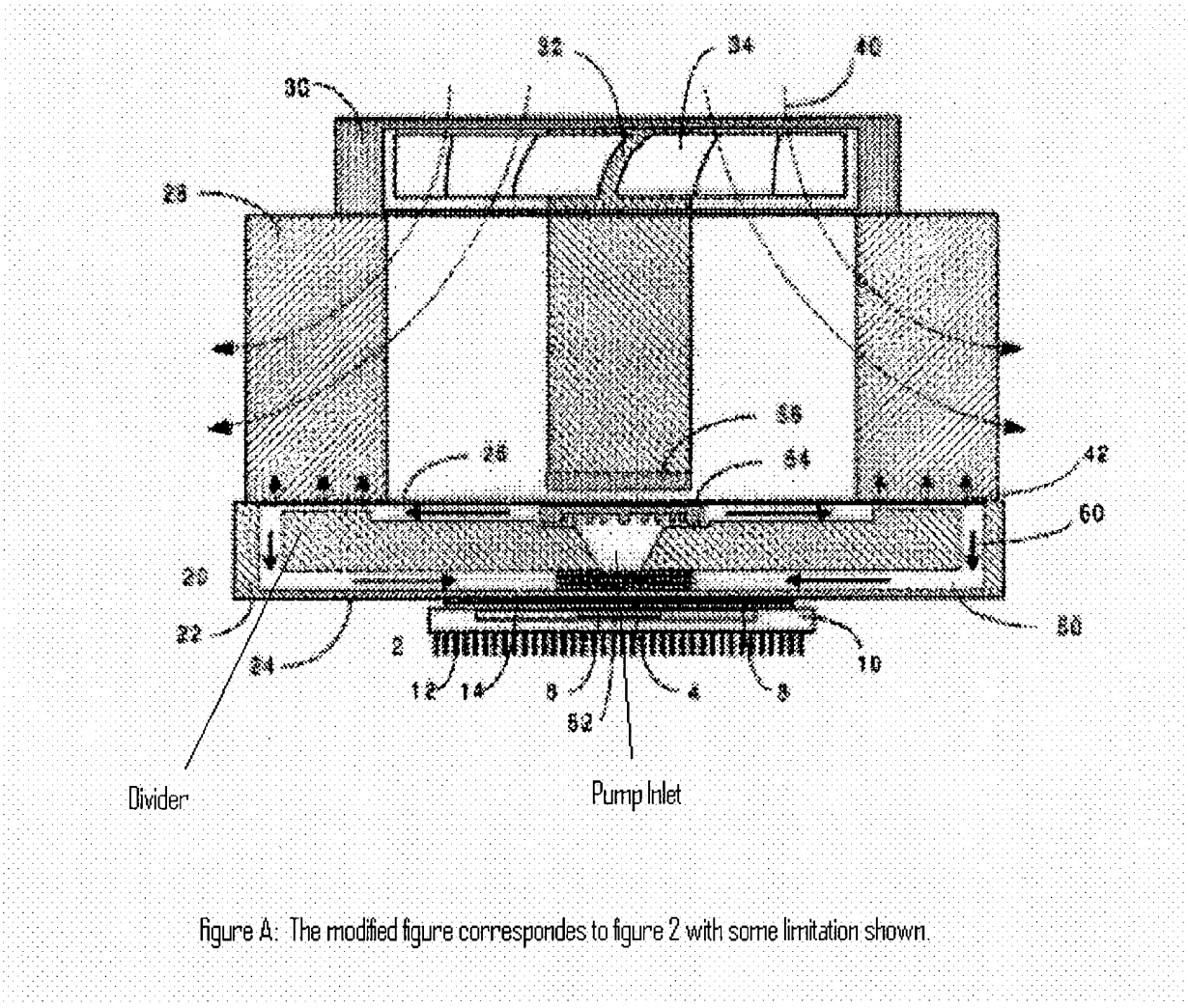

figure A: The modified figure correspondes to figure 2 with some limitation shown.

Batchelder is silent about the fins being integrated with the base. However, in a later patent, Batchelder' 495 disclose (figure 8) a heat exchanger apparatus that has a base (88) having a chamber containing a working fluid for cooling a heat source (80) wherein fins (44) is integrated with a surface of the base to increase the heat transfer efficiency of the device since the thermal

resistance between the base and the fins is minimized. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Batchelder'495 teaching in the Batchelder'165 for the purpose of increasing the heat transfer efficiency of the device since the thermal resistance between the base and the fins is minimized. Furthermore, Batchelder is silent about a power cord connected to the pump specifically to the fan component. It is well known in the art that the fan has a power cord connected the fan to the power source. Attention is now directed to Dodson. Dodson discloses (figure 1) a heat transfer device that has fan (110) attached on top of fins (20) wherein the fan has a power cord (120) connected to a power source to energize the fan from a power source. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Dodson's teaching in Batchelder's device to energize the fan from a power source.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dussinger et al. (US 6,302,192) discloses an integrated circuit heat pipe heat spreader with through mounting hole.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.

TD

July 23, 2004

Tho Duong

Patent Examiner.